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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT NO. [redacted]

CD NO.

COUNTRY Germany (Russian Zone)

SUBJECT Research on Submarine Engines

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SUPPLEMENT TO REPORT NO.

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[redacted]

1. In pursuit of its search for the latest German designs of modern submarine propellent plants, the Soviet Navy was supplied with information on experiments made near the end of World War II with the German "U 798" submarine by the Blohm & Voss Shipyard. These experiments were effected with the "cycle diesel plant" which was contrived as a standard propellent unit for surface and underwater trips.

2. The German experts working at the BERLIN-KOEPENICK "Scientific Technical Section of the MSP of the USSR" were to evaluate all pertinent calculating records and experimental results with a view to critically examining the behavior on underwater trips of the two modern propellent plants, the Walter Turbine and the Cycle Diesel Plant;* these were to be fueled with various fuels under different combustion processes. The aim was to considerably increase the cruising range.

3. The test boat, which was of the "XVII" type, had a displacement of 320 tons. It was equipped with a Walter turbine plant for surface and underwater drive and a small electro-motor for maneuvering. The surface speed was 16 knots, the underwater speed 12 knots. The duration of commitment at sea was scheduled for 30 days.

4. The results of this research work are compiled in the attached study.**For the convenience of higher headquarters a translation into English, made in the field, is attached but, for lack of personnel, this translation could not be checked or edited.

25X1A [redacted] Comment:

a. The study shows that, with regard to the cruising range of the "XVII" type boat, the Cycle Diesel plant proved superior to the Walter turbine, even if the latter is equipped with a compressor to be put into operation at greater depths.

b. As to the three different kinds of fuel, high pressure oxygen, liquid oxygen and Aurol (concentrated hydrogen peroxide), the use

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of the latter yielded the best results. Also, Aurol is easily stored aboard submarines.

25X1A * [redacted] Comment: sic; report does not state whether this refers to a 2 or 4-cycle Diesel engine.

25X1A ** [redacted] Comment: The German and one English copy of the study were forwarded to ID, EUCOM.